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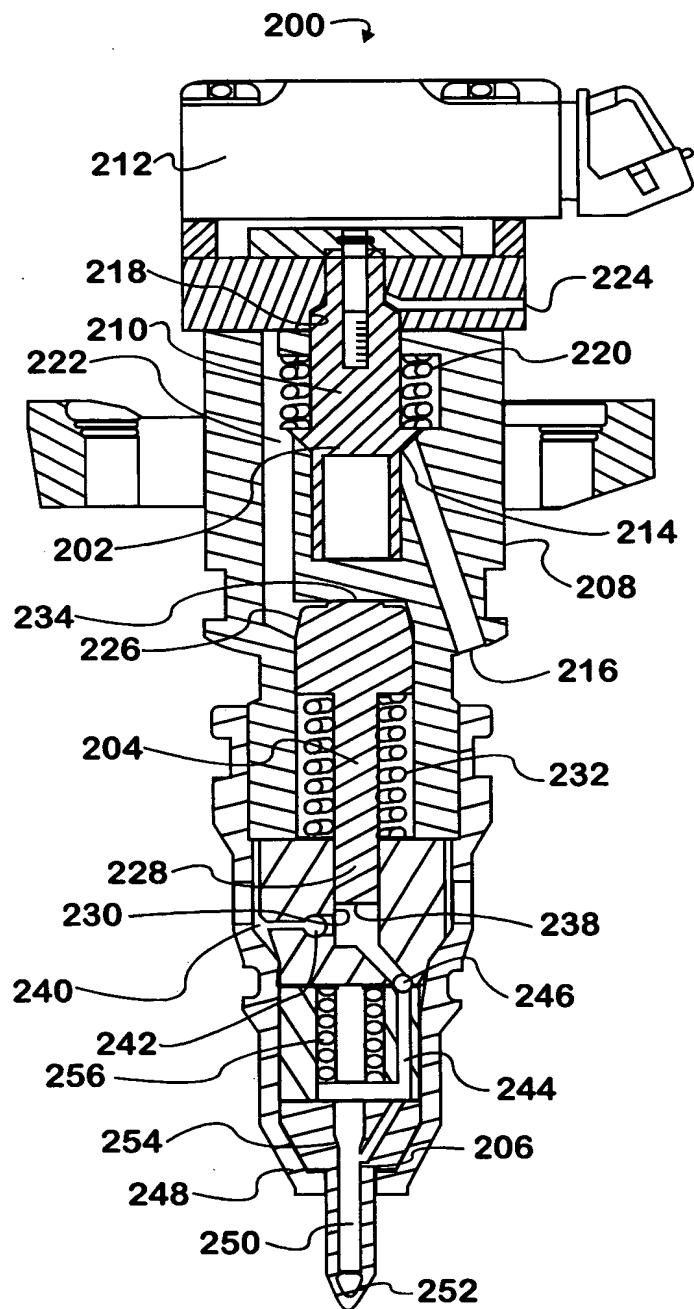


FIG. 1
PRIOR ART

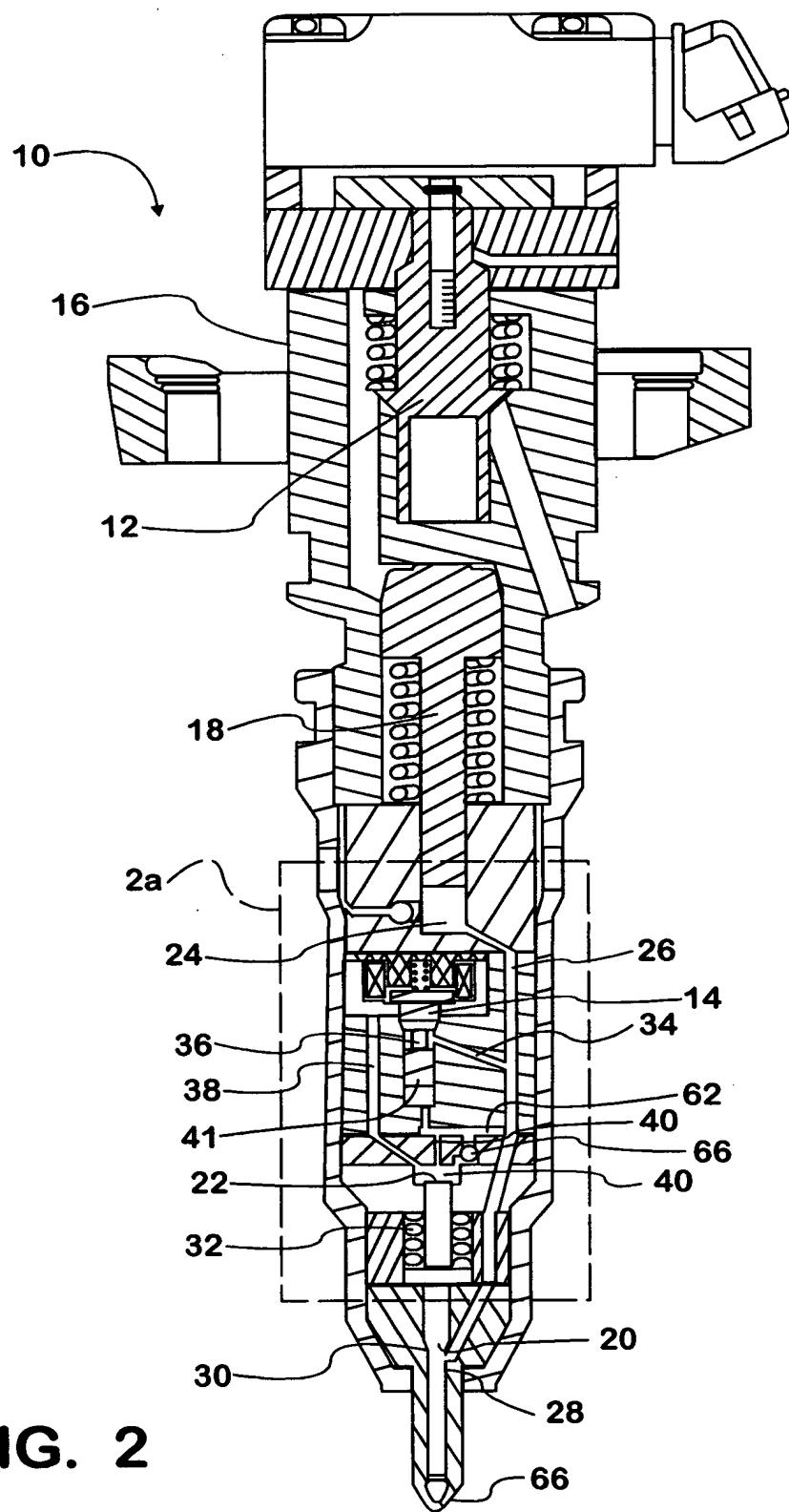


FIG. 2

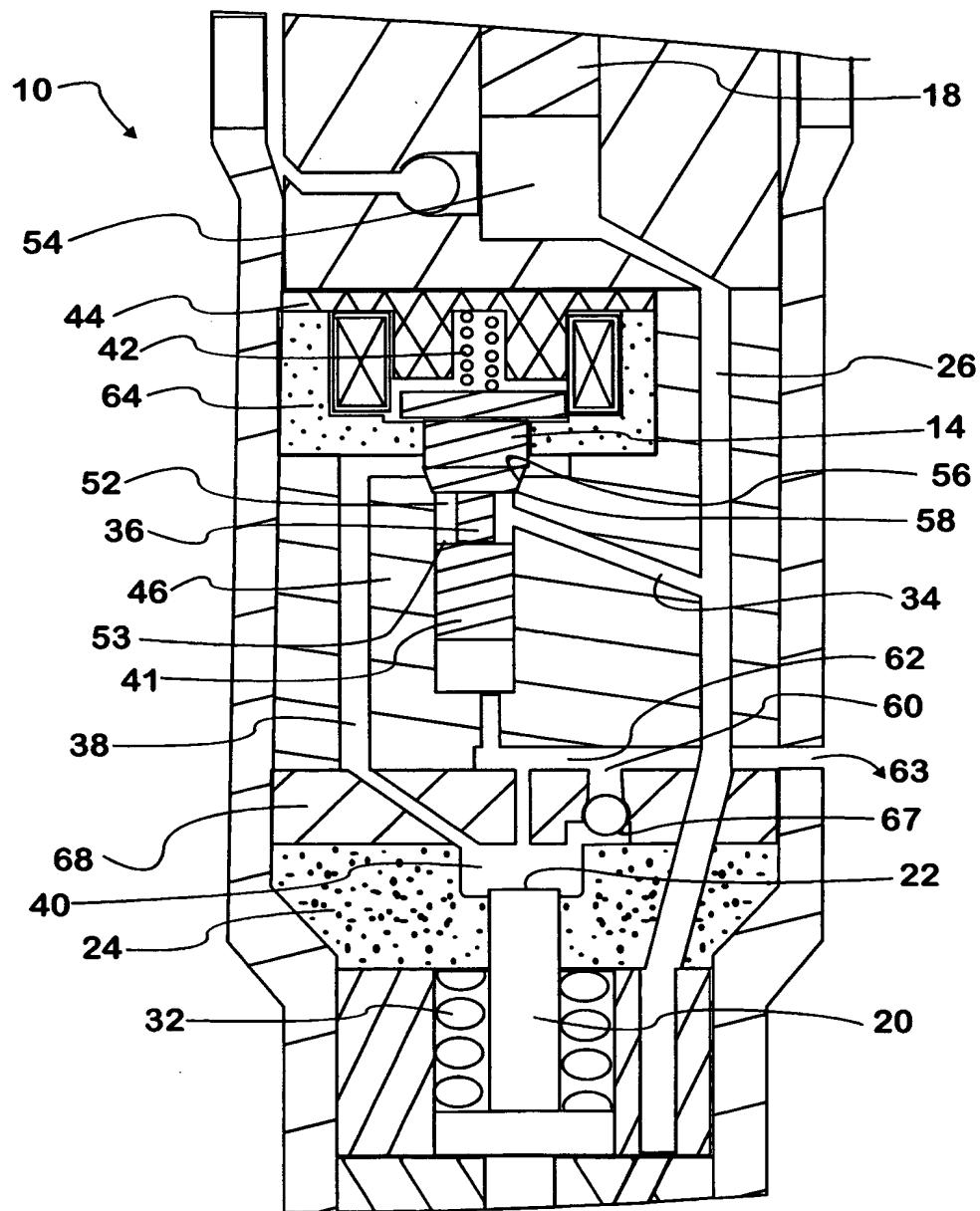


FIG. 2a

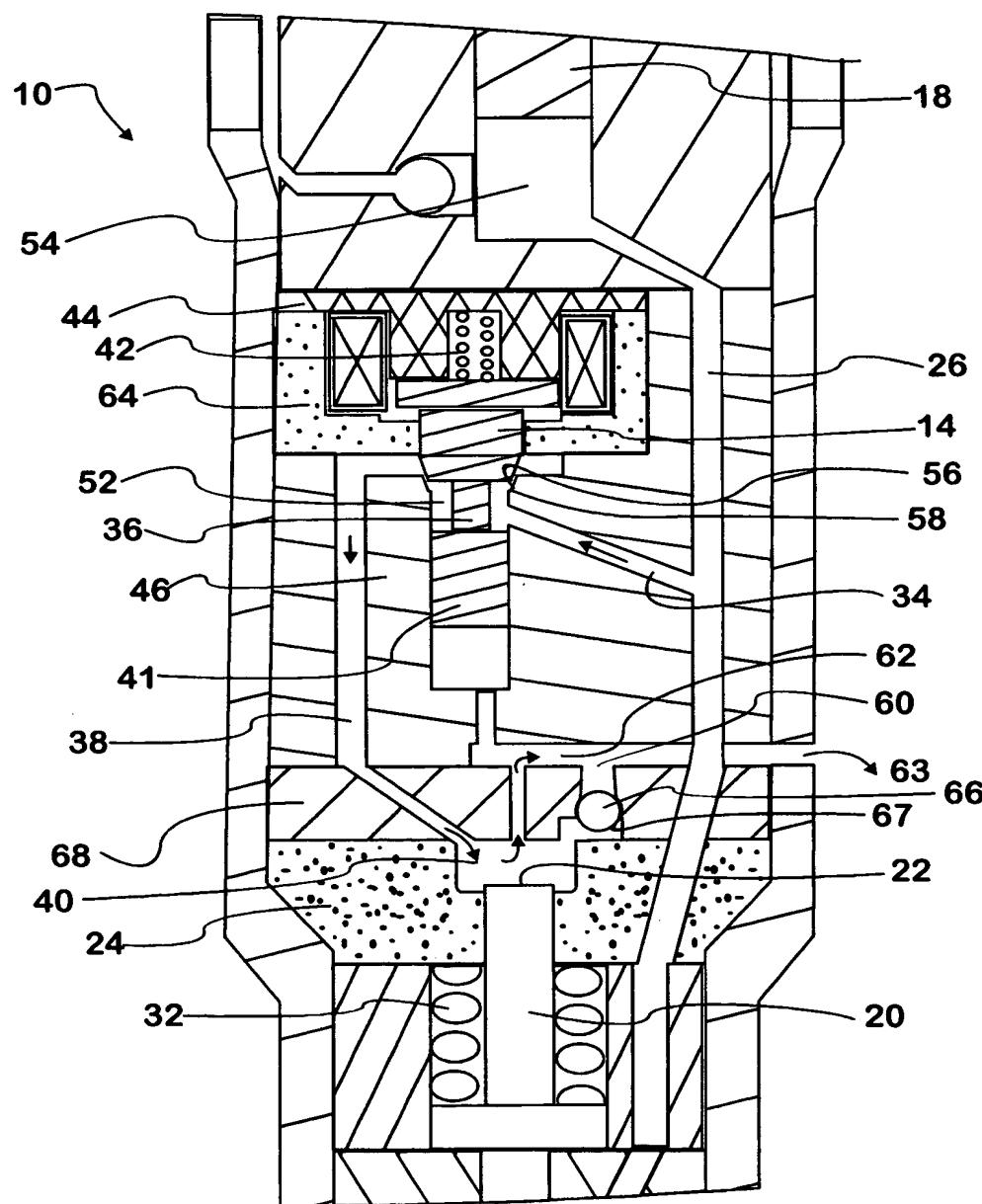


FIG. 2b



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FIG. 3

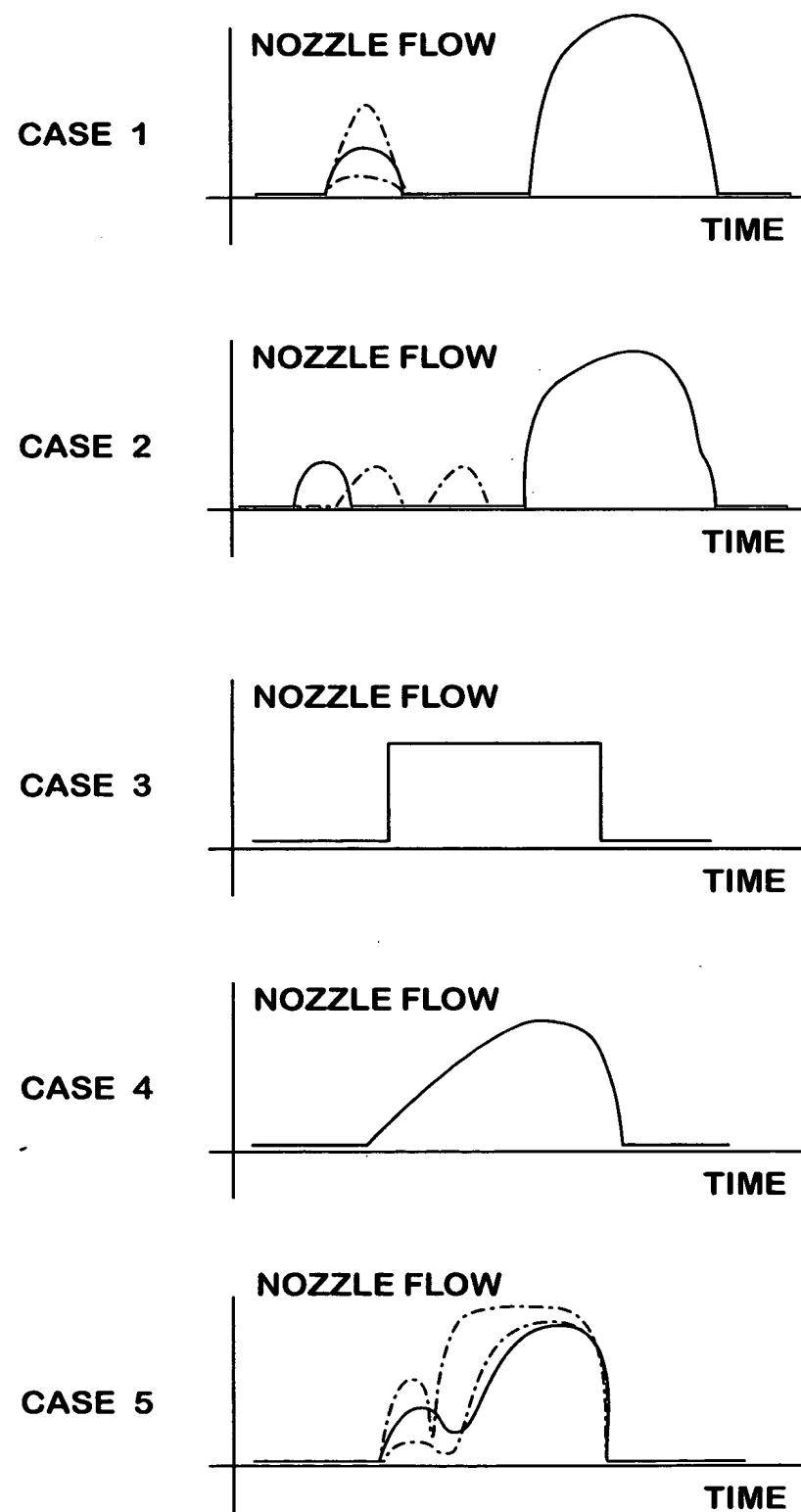


FIG. 5

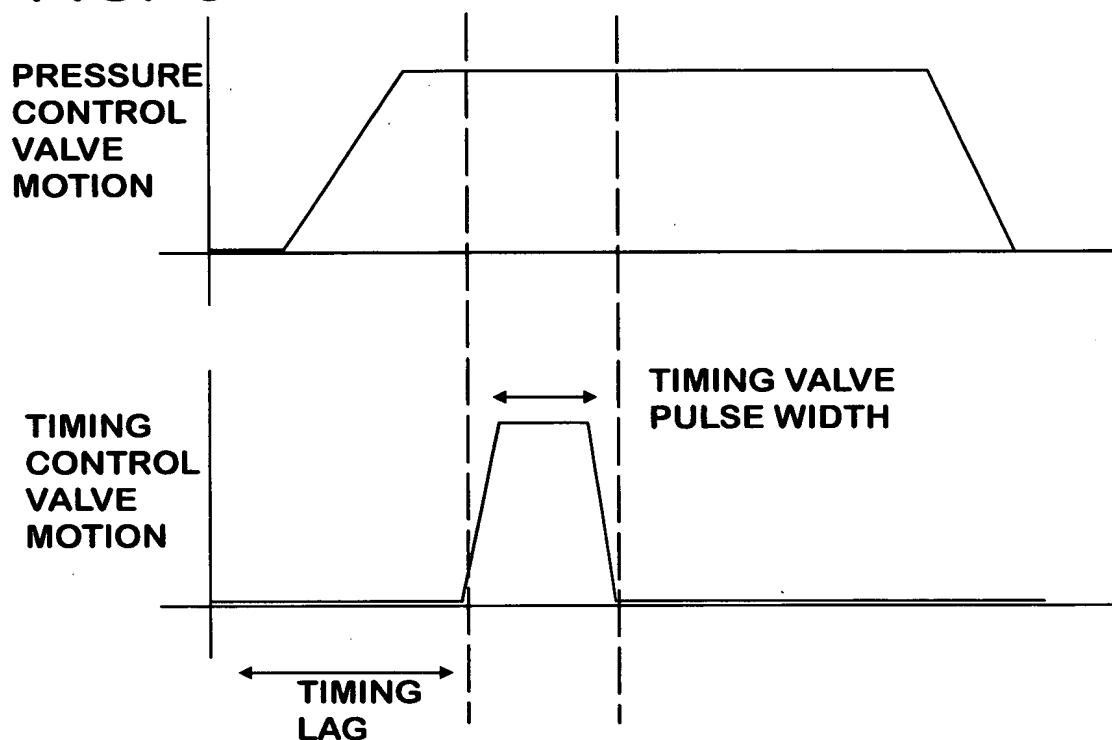
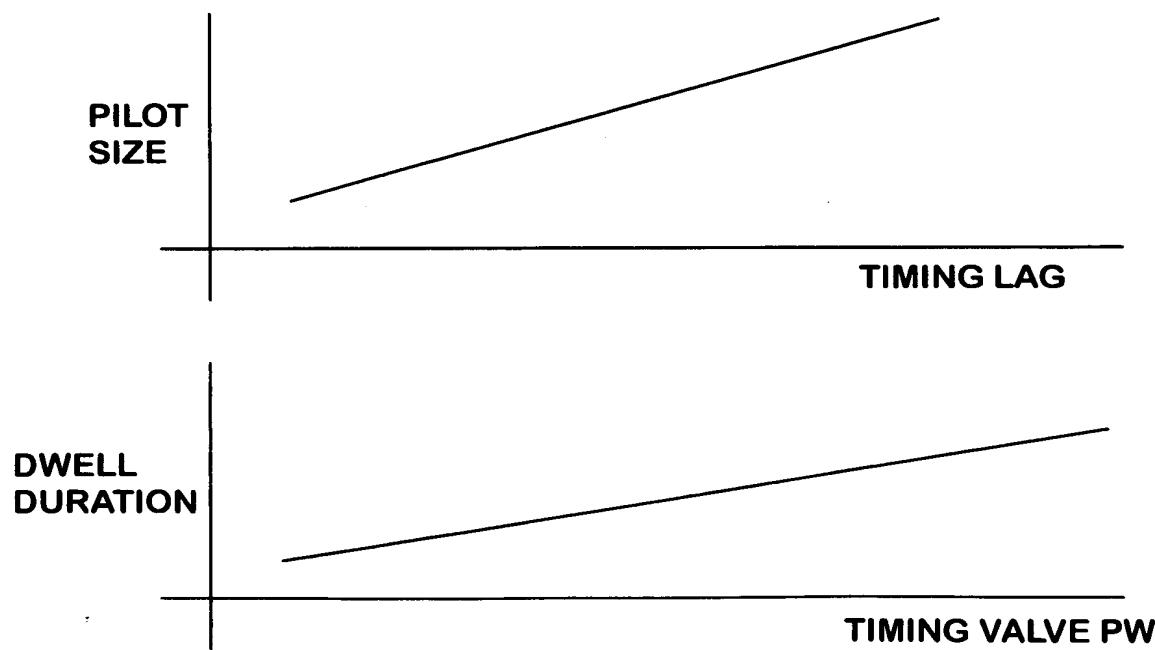


FIG. 6



PIEZO CONTROLLED DIRECT
NEEDLE ACTUATION

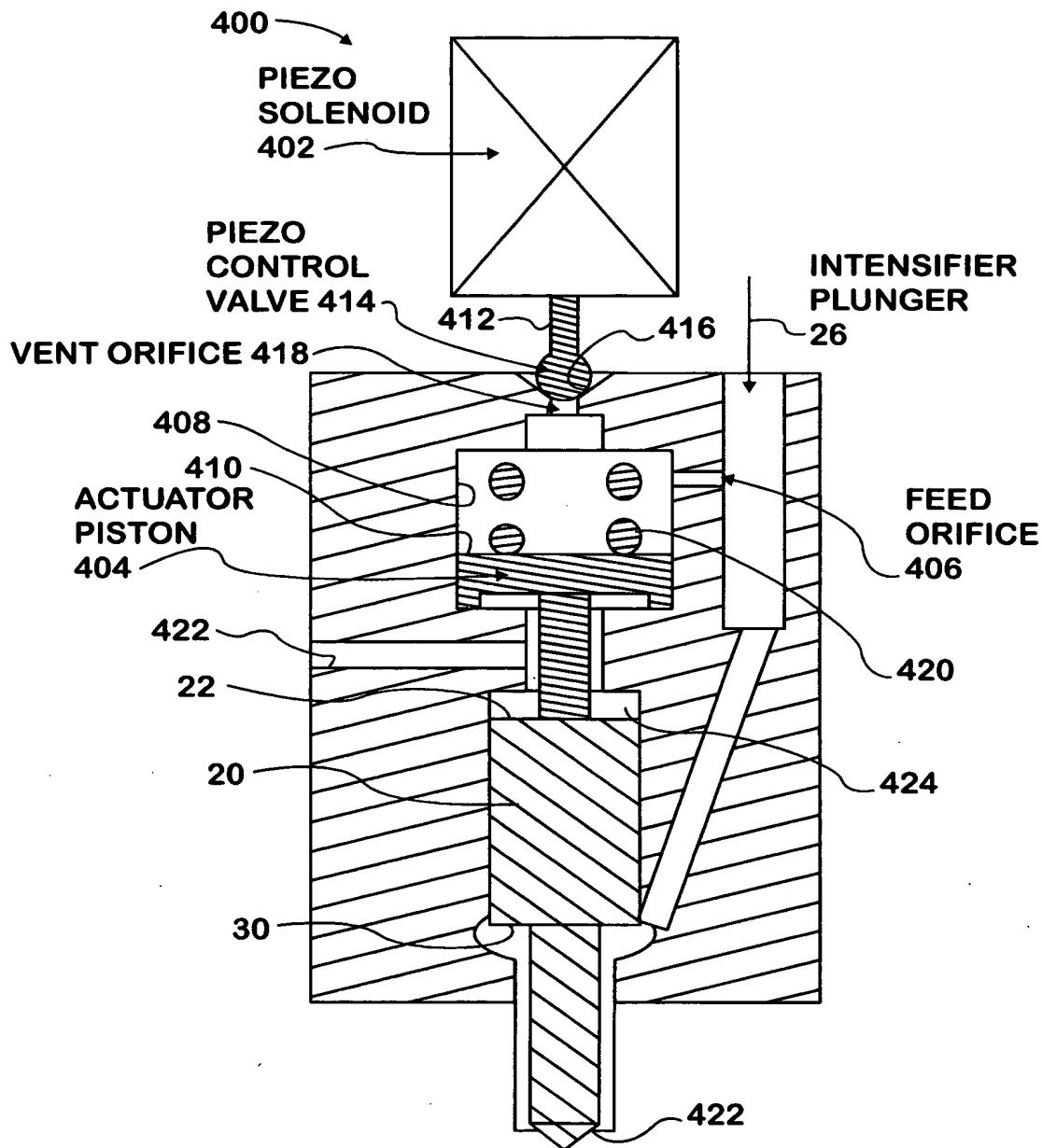


FIG. 7



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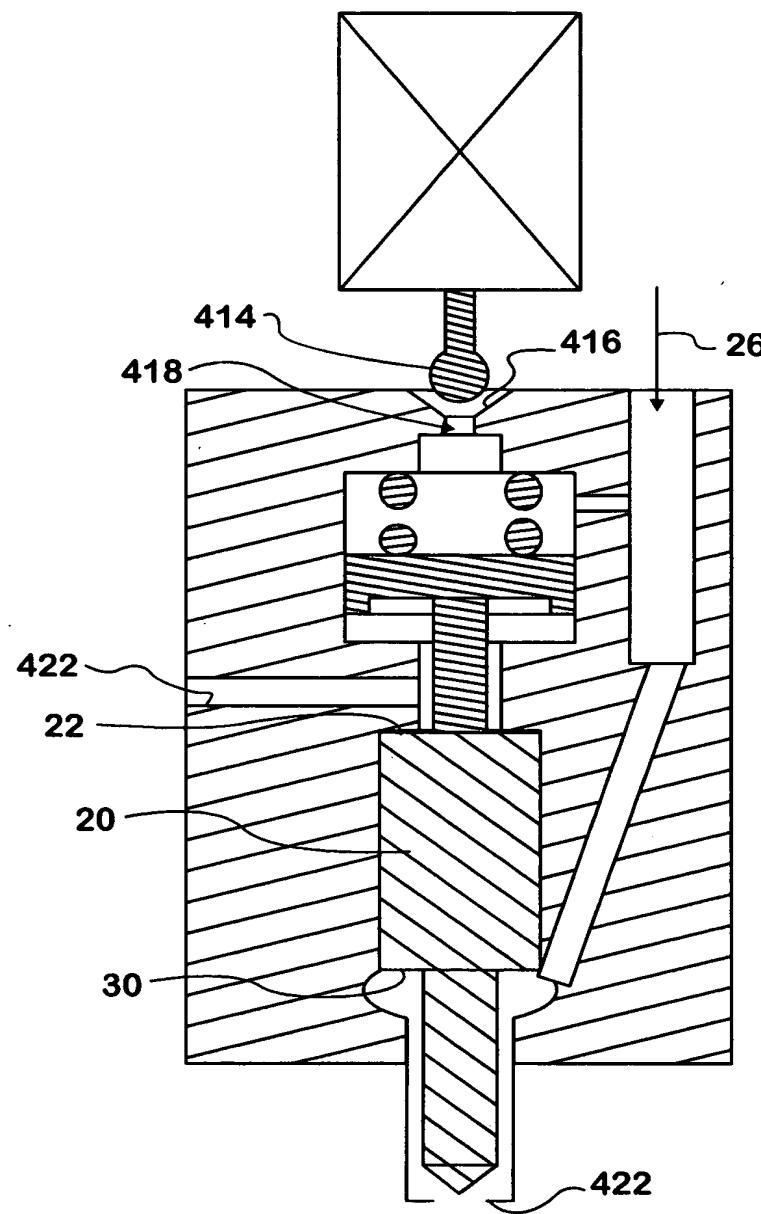


FIG. 8

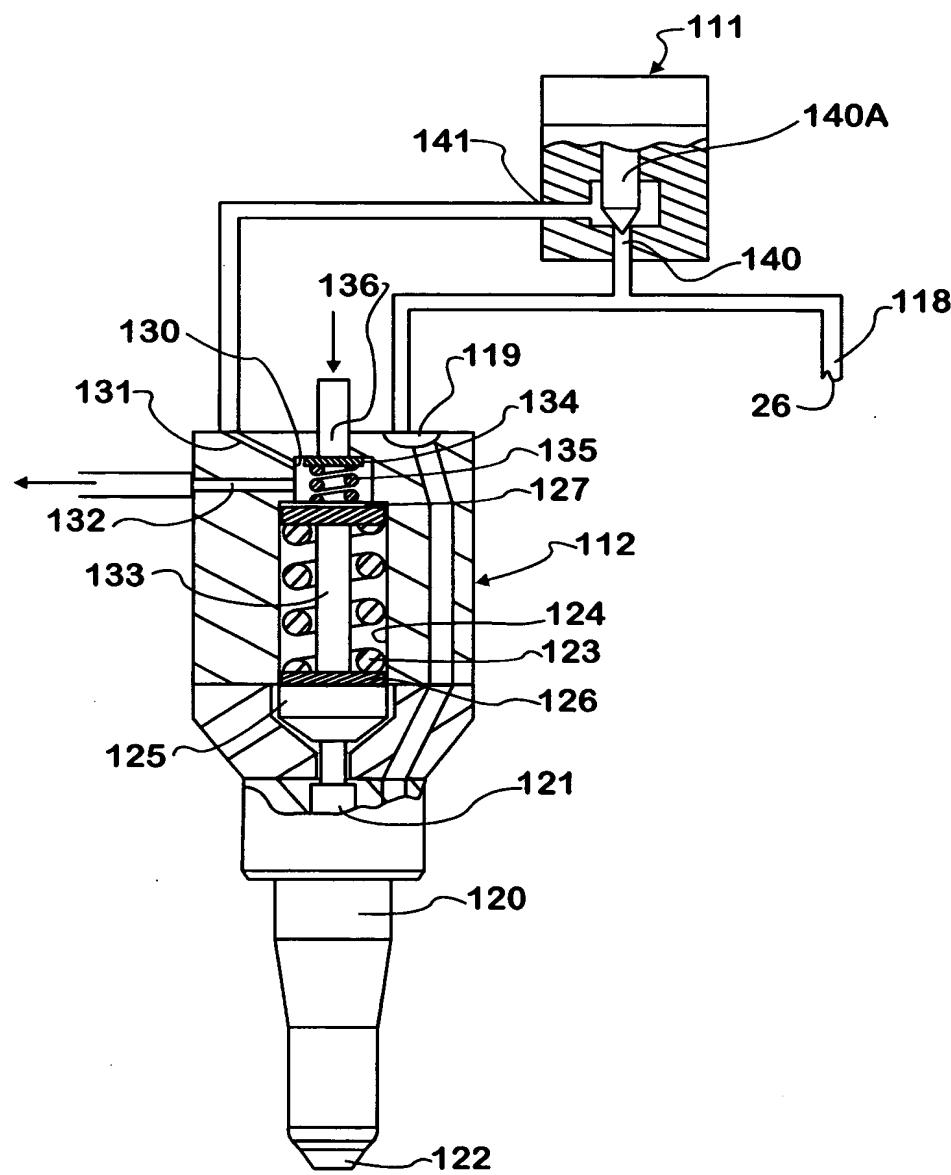


FIG. 9



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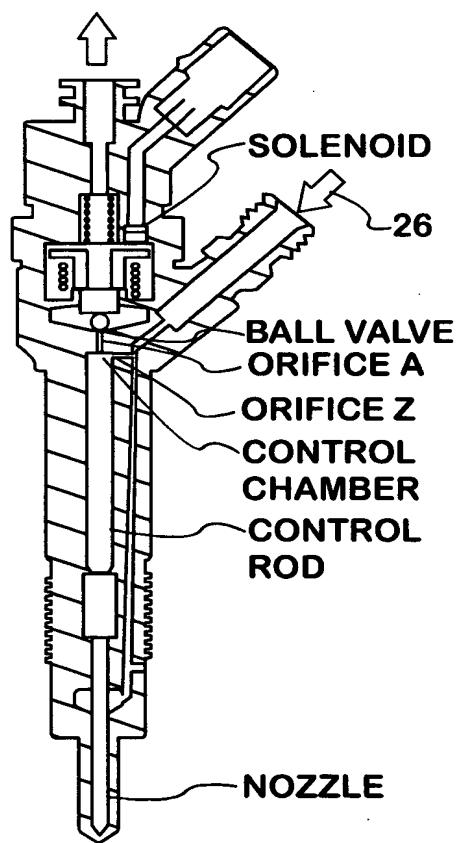


FIG. 10a

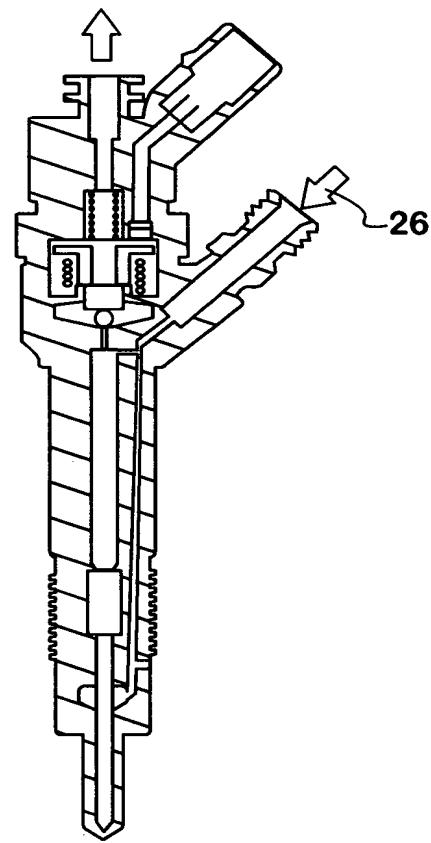


FIG. 10b